

### Claims

1. A system for data reading and EAS deactivation, comprising a housing including a lower housing section containing a lower window oriented generally horizontally and an upper housing section containing an upper window oriented generally vertically;

a data reader disposed in the housing to read an item through the upper and lower windows as the item is passed through a scan volume defined between the upper and lower windows;

a first EAS deactivation coil unit including (a) a central core of magnetically active material and (b) outer winding(s) disposed around the central core, wherein the coil unit is disposed in one of the lower and upper housing sections and to one lateral side of the window therein, wherein the coil unit is constructed and arranged to be interchangeable as between one lateral side of the window to the other.

2. A system according to Claim 1 wherein the deactivation coil unit is disposed in the lower housing section laterally to one side of the lower window.

3. A system according to Claim 2 further comprising an upper deactivation unit disposed in the upper housing section laterally to one side of the upper window and adjacent the deactivation unit in the lower housing section.

4. A system according to Claim 3 wherein the upper deactivation unit comprises (a) a central core of magnetically active material and (b) outer winding(s) disposed around the central core, wherein the upper deactivation unit is constructed and arranged to be interchangeable as between one lateral side of the upper window to the other.

5. A system according to Claims 3 or 4 wherein the deactivation unit in the lower housing section and the upper deactivation unit are connected and arranged in an L-shape.

6. A system according to Claim 3 wherein the upper deactivation unit comprises a core of magnetically active material without any windings.

7. A system according to Claim 3 wherein the upper deactivation unit comprises a coil without any core.

8. A system according to Claim 1 wherein the EAS deactivation unit further comprises an EAS activation unit.

9. A system according to Claim 1 wherein the deactivation coil unit is disposed in the upper housing section laterally to one side of the upper window.

10. A system according to Claim 9 further comprising a lower deactivation unit disposed in the lower housing section laterally to one side of the lower window and adjacent the deactivation unit in the upper housing section, the lower deactivation unit comprising a core of magnetically active material without any windings.

11. A system according to Claim 9 further comprising a lower deactivation unit disposed in the lower housing section laterally to one side of the lower window, the lower deactivation unit comprising (a) a central core of magnetically active material and (b) an outer windings disposed around the central core.

12. A system according to Claims 9 or 10 wherein the deactivation unit in the upper housing section and the lower deactivation unit are connected and arranged in an L-shape.

13. A system according to Claim 1 further comprising a weigh platter, the lower window disposed in the weigh platter; an inner scan housing containing lower scanner components, wherein the deactivation unit is disposed in a cavity between the weigh platter and the inner scan housing.

14. A system according to Claim 1 further comprising a load cell mounted in the lower housing section on a lateral side opposite the coil unit, the load cell supporting the weigh platter.

15. A system according to Claim 1 wherein the load cell is repositionable to the opposite lateral side of the lower housing section.

16. A system according to Claim 1 further comprising a checkout counter, the housing being mounted in the checkout counter; a conveyor disposed in the checkout counter for transporting items to the housing, wherein the first EAS deactivation coil unit is disposed on a lateral side of window opposite the conveyor.

17. A system for data reading and EAS deactivation, comprising a housing including a lower housing section containing a lower window oriented generally horizontally and an upper housing section containing an upper window oriented generally vertically;

a scanner disposed in the housing to read optical codes on an item through the upper and lower windows as the item is passed through a scan volume defined between the upper and lower windows;

an EAS deactivation unit comprised of a first section disposed in one of the lower and upper housing sections laterally to one side of the window and a second section disposed in the other of the lower and upper housing sections, wherein the first section comprises a coil and the second section comprises a core of magnetically active material without windings.

18. A system according to Claim 17 wherein the first section EAS deactivation unit comprises an inner core of magnetically active material, the coil of the first section comprising windings wrapped around the inner core.

19. A system according to Claim 17 wherein the housing comprises an outer enclosure, and wherein the first section EAS deactivation unit is mounted inside the outer enclosure.

20. A system for data reading and EAS deactivation, comprising  
a checkout counter;  
a scanner including a scanner housing mounted in or on the checkout counter, and a window disposed in the scanner housing and facing a scan volume through which items are passed;  
an EAS deactivation unit disposed in the scanner housing laterally to one side of the window and downstream of the scan volume, the EAS deactivation unit comprising a core of magnetically active material and winding(s) wrapped around the core.

21. A system according to Claim 20 wherein the window of scanner is oriented horizontally and flush with a top surface of the checkout counter.

22. A system for data reading and EAS deactivation, comprising  
a housing including a window adapted for facing a scan volume;  
a data reader disposed in the housing to read an item through the window as the item is passed through the scan volume;  
a first EAS deactivation coil unit including (a) a central core of magnetically active material and (b) outer winding(s) disposed around the central core, wherein the coil unit is disposed in the housing adjacent to and downstream of the window.

23. A system according to Claim 22 wherein the window of scanner is oriented horizontally and flush with a top surface of the checkout counter.

24. A system for data reading and EAS deactivation, comprising  
a housing including a window adapted for facing a scan volume;  
a data reader disposed in the housing to read an item through the window as the item is passed in a sweep direction through the scan volume;  
a first EAS deactivation coil unit including (a) an elongated central core of magnetically active material and (b) outer winding(s) disposed around the central core, wherein the coil unit is disposed in the housing adjacent to the window and oriented longitudinally parallel to the sweep direction of the item.

25. A system according to Claim 24 wherein the data reader comprises a housing including a lower housing section containing a lower window oriented generally horizontally and an upper housing section containing an upper window oriented generally vertically and a scanner disposed in the housing to read optical codes on an item through the upper and lower windows as the item is passed through a scan volume defined between the upper and lower windows.

26. A system according to Claim 25 wherein the coil unit is disposed between the lower housing section and the upper housing section.

27. A system according to Claim 25 wherein the coil unit is disposed in the lower housing section distal from the upper housing section.

28. A system according to Claim 25 wherein the coil unit is disposed in the upper housing section distal from the lower housing section.

29. A system for data reading and EAS deactivation, comprising  
a housing including a window adapted for facing a scan volume;  
a data reader disposed in the housing to read an item through the window as the item is passed in a sweep direction through the scan volume;  
a first EAS deactivation coil unit including (a) an elongated central core of magnetically active material and (b) outer winding(s) disposed around the central core, wherein the coil unit is disposed in the housing adjacent to the window for deactivating an EAS tag on an item being passed through the scan volume.

30. A system according to Claim 29 wherein the data reader comprises a housing including a lower housing section containing a lower window oriented generally horizontally and an upper housing section containing an upper window oriented generally vertically and a scanner disposed in the housing to read optical codes on an item through the upper and lower windows as the item is passed in a scan direction through a scan volume defined between the upper and lower windows, wherein the first EAS deactivation coil unit is disposed on a lateral side of lower housing section downstream of the lower window.

31. A system according to Claim 29 wherein the data reader comprises (a) a housing including a lower housing section containing a lower window oriented generally horizontally and an upper housing section containing an upper window oriented generally vertically and (b) a scanner disposed in the housing to read optical codes on an item through the upper and lower windows as the item is passed in a scan direction through a scan volume defined between the upper and lower windows, wherein the first EAS deactivation coil unit is disposed between the lower housing section and the upper housing section and oriented longitudinally and parallel to the scan direction.

32. A system for data reading and electronic article surveillance (EAS) deactivation, comprising

a housing including a lower housing section containing a lower window oriented generally horizontally and an upper housing section containing an upper window oriented generally vertically;

a data reader disposed in the housing to read an item through the upper and lower windows as the item is passed through a scan volume defined between the upper and lower windows;

a first EAS deactivation coil unit including (a) a central portion and (b) outer windings disposed around the central portion, wherein the first EAS deactivation coil unit is disposed in one of the lower and upper housing sections and to one lateral side of the window thereof.

33. A system according to Claim 32 further comprising  
a weigh platter, the lower window disposed in the weigh platter;  
an inner scan housing containing lower scanner components,  
wherein the deactivation unit is disposed in a cavity between the weigh platter and the inner scan housing.

34. A system according to Claim 32 wherein the first EAS deactivation coil unit comprises a downstream EAS coil unit disposed on a downstream side of the window, the system further comprising an upstream EAS coil unit disposed in the housing on a side of the window opposite the first EAS deactivation coil unit.

35. A system according to Claim 34 wherein the upstream EAS coil unit comprises a sensing unit for sensing presence of an EAS tag approaching the scan volume.

36. A system according to Claim 34 wherein the upstream EAS coil unit comprises a second EAS deactivation coil unit.

37. A system according to Claim 32, wherein the first EAS deactivation coil unit is constructed and arranged to be interchangeable as between one lateral side of the window to the other.

38. A system according to Claim 32 wherein the first section EAS deactivation unit comprises a coil having a plurality of windings without a solid core.

39. A system according to Claim 32 wherein the first section EAS deactivation unit comprises a coil having a plurality of windings with a core of magnetically active material.

40. A system for data reading and electronic article surveillance (EAS) deactivation, comprising  
a housing including a window adapted for facing a scan volume;  
a data reader disposed in the housing to read an item through the window as the item is passed in a sweep direction through the scan volume;  
a first EAS deactivation coil unit including (a) an elongated central portion and (b) outer winding(s) disposed around the central portion,  
wherein the deactivation coil unit is disposed in the housing adjacent to the window for deactivating an EAS tag on an item being passed through the scan volume.

41. A system according to Claim 40 further comprising  
a weigh platter, the lower window disposed in the weigh platter;  
an inner scan housing containing lower scanner components,

wherein the deactivation unit is disposed in a cavity between the weigh platter and the inner scan housing.

42. A system according to Claim 40 wherein the first EAS deactivation coil unit comprises a downstream EAS coil unit disposed on a downstream side of the window, the system further comprising an upstream EAS coil unit disposed in the housing on a side of the window opposite the first EAS deactivation coil unit.

43. A system according to Claim 42 wherein the upstream EAS coil unit comprises a sensing unit for sensing presence of an EAS tag approaching the scan volume.

44. A system according to Claim 42 wherein the upstream EAS coil unit comprises a second EAS deactivation coil unit.

45. A system according to Claim 40 wherein the first EAS deactivation coil unit is constructed and arranged to be interchangeable as between one lateral side of the window to the other.

46. A system according to Claim 40 wherein the first section EAS deactivation unit comprises a coil having a plurality of windings without a solid core.

47. A system according to Claim 40 wherein the first section EAS deactivation unit comprises a coil having a plurality of windings with a core of magnetically active material.

48. A method for checkout of an item bearing an optical code and having a deactivatable security tag, comprising the steps of:

passing the item along an item path and through a read volume of a data reader, the data reader being disposed in a housing;

reading the optical label on the item with the data reader through a window in the housing;



generating a security tag deactivation field with a security tag deactivation unit, the deactivation unit being disposed in the housing, and the deactivation field being located in the item path downstream of the read volume;

wherein once the data reader has read the optical code on the item and identified it, activating the security tag deactivation field and deactivating the security tag.

49. A method according to Claim 48 wherein the deactivation field overlaps to some extent with the read volume.

50. A method according to Claim 48 further comprising generating a security tag detection field with a detection unit, the detection unit being disposed in the housing, and the detection field being located in the item path upstream of the read volume;

alerting the deactivation unit upon detection of a security tag.

51. A system for data reading and electronic article surveillance (EAS) deactivation, comprising

a housing including a window adapted for facing a scan volume;

a data reader disposed in the housing to read an item through the window as the item is passed in a sweep direction through the scan volume;

a first EAS unit located in the housing toward an upstream side of the window, the first EAS unit comprising an EAS detector for sensing presence of EAS tags on items on an upstream side of the scan volume;

a second EAS unit located generally downstream of the scan volume, the second EAS unit comprising an EAS deactivation coil for deactivating EAS tags.

52. A system according to Claim 51 wherein the second EAS unit comprises a plurality of windings disposed about an interior.

53. A system according to 52 wherein the interior comprises a core of magnetically active material.

54. A system according to Claim 51 wherein the second EAS deactivation unit comprises (a) an elongated central portion and (b) outer winding(s) disposed around the central portion.

55. A system according to Claim 51 further comprising a controller receiving input from both the data reader and the first EAS unit, and controlling activation of the EAS deactivation coil.

56. A system according to Claim 51 wherein the first EAS unit comprises an EAS detector for sensing EAS tags on items approaching the scan volume.